



## Different influence of outdoor temperature on traumatic and nontraumatic injuries

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### Abstract:

**BACKGROUND:** Injuries are affected by weather conditions, which influence various human activities. However, only a few studies have reported an association between injuries and weather conditions despite the fact that extreme weather conditions can occur more frequently with climate change. The goal of this study was to evaluate the association between outdoor temperature and traumatic and nontraumatic injury using emergency ambulance delivery. **METHODS:** We designed a prognostic study to evaluate the different effects of outdoor temperature depending on types of injury. Using a generalized additive model, we examined the association between outdoor temperatures and injuries in Korea from 2006 to 2008, adjusting for confounders such as relative humidity, day of the week, and long-term time trends. A random effects model was used to estimate combined effects across all areas. **RESULTS:** The city-combined effect estimate for nontraumatic injuries was 1.95% (95% confidence interval, 1.28-2.62%) corresponding to a 1 degrees C increase in mean temperature, whereas the relationship for traumatic injuries was not linear. The risk of nontraumatic injury related to temperature for males and elderly individuals was higher than for females and younger people. **CONCLUSION:** The risk of injury attributable to outdoor temperature was found to vary according to the injury type. This information may be useful for developing adaptation strategies related to climate change. **LEVEL OF EVIDENCE:** Prognostic study, level III.

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### Resource Description

#### Exposure : ☒

weather or climate related pathway by which climate change affects health

Meteorological Factors, Temperature

**Temperature:** Fluctuations

#### Geographic Feature: ☒

resource focuses on specific type of geography

Urban

#### Geographic Location: ☒

resource focuses on specific location

# Climate Change and Human Health Literature Portal

Non-United States

**Non-United States:** Asia

**Asian Region/Country:** Other Asian Country

**Other Asian Country:** South Korea

**Health Impact:** ☒

specification of health effect or disease related to climate change exposure

Injury

**Population of Concern:** A focus of content

**Population of Concern:** ☒

populations at particular risk or vulnerability to climate change impacts

Elderly

**Resource Type:** ☒

format or standard characteristic of resource

Research Article

**Timescale:** ☒

time period studied

Time Scale Unspecified